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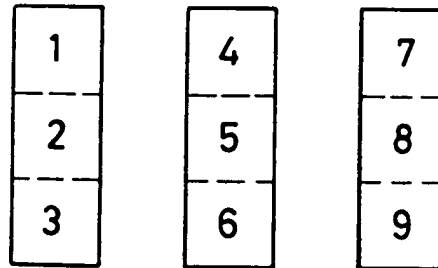
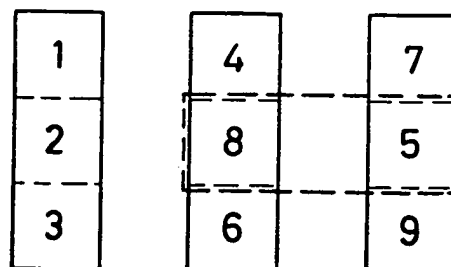
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(54) **Coin-operated gaming or amusement machines**

(57) A fruit machine has a video screen on which images represent the normal mechanical reels. A feature is made randomly available in which various adjustments to the display can

be made. A pair of symbols can be exchanged between reels, or a group of three or four symbols can be shifted cyclically in the group so that the reels appear to acquire different symbols. The line determining a win can thus be altered to gain a prize.

**FIG. 1.****FIG. 2.**

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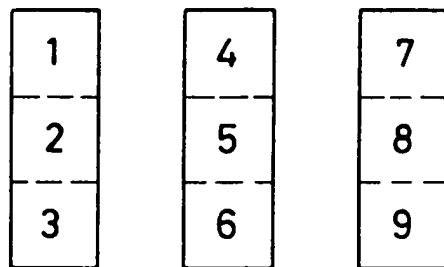


FIG. 1.

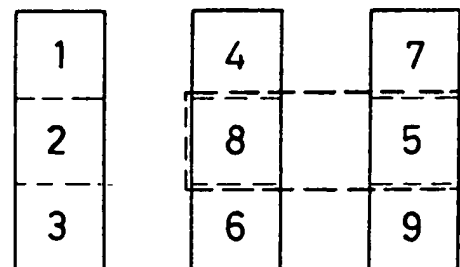


FIG. 2.

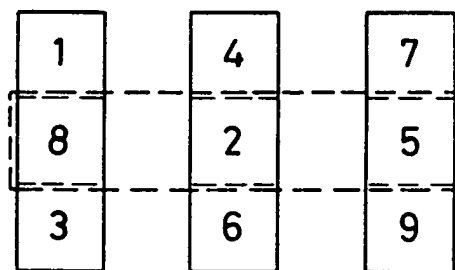


FIG. 3.

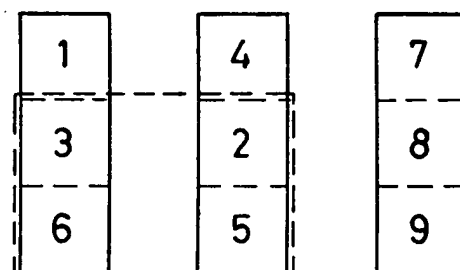


FIG. 4.

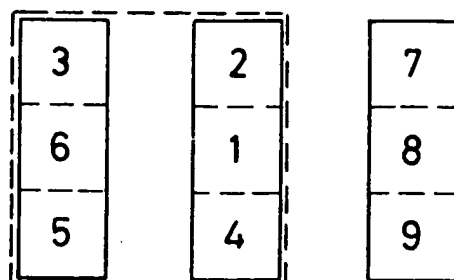


FIG. 5.

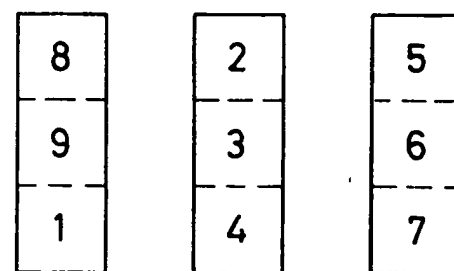


FIG. 6.

## SPECIFICATION

## Improvements relating to coin-operated gaming or amusement machines

This invention relates to coin-operated or coin-  
5 freed gaming or amusement-with-prizes machines, and term "coin" is intended in this Specification to embrace tokens which can be obtained from the proprietor of the machine in exchange for normal money.

10 This invention is concerned with machines of the kind known as fruit machines in which a series of symbols carried by rotatable drums, reels, discs, or their equivalents, is displayed to view in a line. For convenience, reference will henceforth simply  
15 be made to reels. When the machine is operated by insertion of a coin, and possibly also by depression of a lever or pressing of a button or the like, the reels rotate and stop in an apparently random manner, and if the symbols in the  
20 resulting line are in a winning combination, a pay-out mechanism is operated and a prize is awarded and indicated.

In order to add to the interest of such machines, it is common to add an extra "feature" by which  
25 there is occasionally a chance of a prize being awarded for some occurrence beyond the simple arrival of the reels, after their initial spin, at a particular combination line. It has been proposed to enable the player to adjust the position of the  
30 reels by indexing forwards and backwards by what has become known as a "nudge" button. Normally, the player can see the symbol in the position adjacent the combination line and can thus predict the result of the nudge adjustment. If  
35 this brings up a winning combination line, then a prize is awarded. With another feature, known as a "shuffle", the reels are moved randomly backwards or forwards before stopping again.

With these features, however, the eventual  
40 combination of symbols is limited by what is on the respective reels adjacent the first combination line. In other words, if a particular symbol is wanted to complete a winning line and is nowhere near that line on the reel in question, there is  
45 nothing the player can do about it, even though he has the feature available. He may wish that he could transfer that needed symbol from another reel, on which it may be visible.

It is the aim of this invention to allow this  
50 transfer of symbols from one reel to another to be achieved.

From one aspect the invention provides a fruit machine of the kind described using equivalents to  
55 actual reels wherein the reel symbols are images on a video screen and wherein a randomly enabled feature allows symbols to be transferred between the reel equivalents.

Such transfer can readily be achieved electronically, where the press of a button can  
60 switch around the projecting images so that the "reels" appear to have exchanged at least some of their symbols.

In a preferred form a group of symbols is selected and the transfer is limited to that group.

65 This may be done in cyclic fashion, with each symbol moving round one or more places as dictated by the player. However, they may be changed round in other patterns or randomly.

The group of symbols may itself be selectable  
70 by the player, and the feature may allow a symbol exchange in one group and a further exchange in another group, possible overlapping the first one.

For a better understanding of the invention, one embodiment will now be described, by way of  
75 example, with reference to the accompanying drawing, in which the figures are diagrammatic representations of the reel windows of a video fruit machine and in which:

Figure 1 shows the "reels" in their initial  
80 stopped positions, and

Figures 2 to 6 show the "reels" in which some symbols have been changed around as a result of playing a randomly enabled feature.

As mentioned above, the reels are not  
85 mechanical devices but video simulations of them, the symbols being projected onto the screen, and capable of being altered electronically. In normal play, they can be changed in a sequential manner to represent the spinning of actual reels.

Instead of illustrating the usual fruit machine  
90 symbols, which can also be used in this video version, it is convenient for this description simply to use numbers in their place. Although the numbers differ, they may represent identical  
95 symbols.

The game will be described on the assumption that the central horizontal line of symbols is the win line; that is certain combinations of symbols appearing on that line will generate the award of a  
100 prize. However, other lines could serve instead, for example the top and bottom ones, or even diagonals. There could even be more than one win line.

The present feature allows the symbols to be  
105 swapped around between the reels. This can be used to transform a non-winning combination into a winning one, and various options may be open. They can be offered singly or in combination and the machine may allow one to be played per game  
110 or more than that, up to a limit. The feature is available at random, independently of the symbols showing, or perhaps when certain symbols appear in the windows.

The first and simplest version is shown in  
115 Figure 2, where any two symbols on the win line can be interchanged. As illustrated, the middle and righthand ones have swapped over so that the win line reads 2-8-5. If 2 and 8 are identical symbols, and 5 is different, this may generate a small prize,  
120 where previously the line did not.

Figure 3 shows another change-over system, again confined to the win line. Here, all three symbols are shifted around in cyclic fashion so that the line reads 8-2-5.

Figure 4 shows a change-over involving two rows and two reels. In the lower lefthand corner there has been a cyclic shift of one so that the win line reads 3-2-8, while the lower line reads 6-5-9. Any group of four may be taken, not necessarily

adjacent. For example, there could be a cyclic change of 1, 2, 7 and 8.

Larger groups of symbols can be changed round as shown in Figure 5, where the first two  
5 reels are grouped together and their symbols have been shifted round two places so that the win line reads 6-1-8. Instead of taking the first two or  
10 another pair of reels, other groups of six could be formed by taking the upper and middle or middle and lower lines.

All the symbols could be involved in a change-around, for example by shifting them cyclicly and keeping the number order shown in Figure 1. This  
15 is illustrated in Figure 6, where there have been two shifts in this mode.

It will be understood that there are many more variations on this theme and that the changing over of symbols in a group does not have to be cyclic. Indeed, there could be provision for a  
20 random swap where the player voluntarily or compulsorily takes a chance on ending up with an improved win line. If the number of change-overs allowed is limited, then he may be offered alternatives in the way the changes are made; for  
25 example he might be informed that only one change-over is permitted, but there could be a choice between cyclic, anti-cyclic, diagonal, and random symbol movement.

To avoid a vast number of controls, it is  
30 desirable that the group of symbols which are to be changed around should be identified and a single button then operated to shift the symbols in whichever group it may be. This is easily accomplished with a video system in that the  
35 group of symbols can be picked out by, for example, brighter illumination, or by surrounding them individually, or collectively, with an illuminated frame. Such collective frames are indicated by broken lines in several of the figures.  
40 When the feature is offered, the machine itself may frame or otherwise identify a particular group of symbols, or the player may be provided with means for selecting his own preferred group. For example, by operating a cursor knob he could shift  
45 a frame around the screen until it embraced a group of symbols he wanted to change. He might be able to effect one change, and then move the frame to another group, perhaps overlapping the original one, and make a further  
50 change. In this way, the player could gradually build up a winning line, or improve on one that is already offering a prize. He might also be offered the opportunity to change the shape of the selector frame, for example from a four-symbol  
55 group to a three-symbol one.

From another aspect the present invention provides a fruit machine of the kind described using equivalents to actual reels, wherein the reels  
60 are images on a video screen and wherein a randomly enabled feature allows replacement of displayed symbols by other, randomly selected symbols.

In this version, the player cannot predict the result of using the feature. If he has a non-winning  
65 line, and cannot adjust it by shifting the visible symbols, he can take a chance and try for an alternative combination. This may be done singly (changing one symbol), in groups or completely (that is changing the whole display), as selected or  
70 as permitted by the machine.

This type of feature may be provided as an alternative or additional to the feature previously described.

## CLAIMS

- 75 1. A fruit machine of the kind described using equivalents to actual reels, wherein the reel symbols are images on a video screen and wherein a randomly enabled feature allows symbols to be transferred between the reel  
80 equivalents.
2. A fruit machine as claimed in claim 1, wherein the transfer of symbols is confined to a group forming a part of the whole symbol display.
3. A fruit machine as claimed in claim 2,  
85 wherein the group is determined by the machine.
4. A fruit machine as claimed in claim 2, wherein the group is selectable by a player.
5. A fruit machine as claimed in claim 2, 3 or 4, wherein more than one group may be made  
90 available for symbol transfer.
6. A fruit machine as claimed in claim 5, wherein the groups overlap, the transfers being performable sequentially.
7. A fruit machine as claimed in any preceding  
95 claim, wherein the transfer is in an ordered fashion.
8. A fruit machine as claimed in any one of claims 1 to 6, wherein the transfer is at random.
9. A fruit machine of the kind described using  
100 equivalents to actual reels, wherein the reels are images on a video screen and wherein a randomly enabled feature allows replacement of displayed symbols by other, randomly selected symbols.
10. A fruit machine as claimed in claim 9,  
105 wherein the transfer of symbols is confined to a group forming part of the whole symbol display.
11. A fruit machine as claimed in claim 10, wherein the group is determined by the machine.
12. A fruit machine as claimed in claim 11,  
110 wherein the group is selectable by a player.
13. A fruit machine as claimed in claim 10, 11 or 12, wherein more than one group may be made available for symbol transfer.
14. A fruit machine as claimed in claim 13, wherein the groups overlap, the transfers being performable sequentially.
15. A fruit machine as claimed in any one of claims 1 to 8, and as claimed in any one of claims 9 to 14, the randomly enabled feature allowing  
120 transfer and/or replacement of symbols.
16. A fruit machine substantially as hereinbefore described with reference to the accompanying drawing.